

PATENT APPLICATION/PCT
Attorney Docket No. 1217-012195

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :

Koichi NAOI : PERSONAL ORNAMENT HAVING WHITE
Akiyoshi TAKAGI : COATING LAYER AND PROCESS FOR
Yukio MIYA : PRODUCING THE SAME
Fumio TASE :
Kazumi HAMANO :

International Application :
No. PCT/JP01/05130 :

International Filing Date :
15 June 2001 :

Priority Date Claimed :
27 June 2000 :

Serial No. Not Yet Assigned :

Filed Concurrently Herewith :

Pittsburgh, Pennsylvania
February 26, 2002

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to initial examination, please amend the above-identified patent application as follows:

IN THE SPECIFICATION:

On page 1, please delete the section heading "BACKGROUND ART" and replace it with the following rewritten heading:

BACKGROUND OF THE INVENTION

10069625-022602
20020226-022602

On page 3, please delete the first heading “OBJECT OF THE INVENTION”.

On page 3, please replace the section heading “DISCLOSURE OF THE INVENTION” with the following rewritten section heading:

SUMMARY OF THE INVENTION

On page 12, please replace the section heading “BEST MODE FOR CARRYING OUT THE INVENTION” with the following rewritten section heading:

DETAILED DESCRIPTION OF THE INVENTION

On page 31, please delete the section heading “EFFECTS OF THE INVENTION”.

IN THE CLAIMS:

Please amend claim 3 as follows:

3. (Amended) The personal ornament having a white coating layer according to claim 1, wherein a white-colored noble metal coating layer is formed in a thickness ranging from 0.04 to 0.3μm by a dry plating process on the surface of the stainless steel coating layer.

Please amend claim 7 as follows:

7. (Amended) The personal ornament having a white coating layer according to claim 2, wherein the underlying plating layer comprises a coating layer which is formed by a wet plating process and is composed of at least one metal selected from the group consisting of gold, copper, nickel, chromium, tin, palladium, nickel-phosphorus alloys, nickel alloys excluding nickel-phosphorus alloys, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 9 as follows:

9. (Amended) The personal ornament having a white coating layer according to claim 2, wherein the underlying plating layer is a coating layer formed by a wet plating process and composed of at least one nickel-free metal selected from the group consisting of gold, copper, chromium, tin, palladium, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 10 as follows:

10. (Amended) The personal ornament having a white coating layer according to claim 2, wherein the underlying plating layer is a coating layer formed by a dry plating process and is composed of titanium carbide, zirconium carbide, or tantalum carbide.

Please amend claim 11 as follows:

11. (Amended) The personal ornament having a white coating layer according to claim 2, wherein the underlying plating layer has an entire thickness ranging from 0.2 to 30 μm .

Please amend claim 12 as follows:

12. (Amended) The personal ornament having a white surface coating layer according to claim 1, wherein the white-colored stainless steel coating layer is composed of an austenitic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 8-22 vol% of nickel, and 15-26 vol% of chromium.

Please amend claim 13 as follows:

13. (Amended) The personal ornament having a white coating layer according to claim 1, wherein the white-colored stainless steel coating layer is composed of a nickel-free ferritic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of

silicon, 1.0-2.5 vol% of manganese, 14-20 vol% of chromium, and 0.4-2.5 vol% of molybdenum.

Please amend claim 14 as follows:

14. (Amended) The personal ornament having a white coating layer according to claim 1, wherein the white-colored stainless steel coating layer is formed by a dry plating process selected from a sputtering method, an arc evaporation method, or an ion-plating method.

Please amend claim 15 as follows:

15. (Amended) The personal ornament having a white coating layer according to claim 1, wherein the stainless steel coating layer has a thickness ranging from 0.1 to 2.0 μm .

Please amend claim 16 as follows:

16. (Amended) The personal ornament having a white coating layer according to claim 1, wherein, on the surface of the base article or of the underlying plating layer, at least one plating layer different in color tone from the white-colored stainless steel coating layer is formed by a dry plating process in addition to the stainless steel coating layer formed by a dry plating process.

Please amend claim 21 as follows:

21. (Amended) The process for producing a personal ornament having a white coating layer according to claim 19, which further comprises, after the formation of the white-colored stainless steel coating layer, the step of forming a white-colored noble metal coating layer in a thickness ranging from 0.04 to 0.3 μm by a dry plating process on the surface of the stainless steel coating layer.

Please amend claim 25 as follows:

25. (Amended) The process for producing a personal ornament having a white coating layer according to claim 20, wherein the underlying plating layer is formed by a wet plating process from at least one metal selected from the group consisting of gold, copper, nickel, chromium, tin, palladium, nickel-phosphorus alloys, nickel alloys excluding nickel-phosphorus alloys, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 27 as follows:

27. (Amended) The process for producing a personal ornament having a white coating layer according to claim 20, wherein the underlying plating layer is formed by a wet plating process from at least one nickel-free metal selected from the group consisting of gold, copper, chromium, tin, palladium, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 28 as follows:

28. (Amended) The process for producing a personal ornament having a white coating layer according to claim 20, wherein the underlying plating layer is formed from titanium carbide, zirconium carbide or tantalum carbide by a dry plating process.

Please amend claim 29 as follows:

29. (Amended) The process for producing a personal ornament having a white coating layer according to claim 20, wherein the underlying plating layer has an entire thickness of ranging from 0.2 to 30µm.

Please amend claim 30 as follows:

30. (Amended) The process for producing a personal ornament having a white coating layer according to claim 19, wherein the white-colored stainless steel coating layer is composed of an austenitic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 8-22 vol% of nickel and 15-26 vol% of chromium; and is formed by a sputtering method, an arc evaporation method or an ion plating method.

Please amend claim 31 as follows:

31. (Amended) The process for producing a personal ornament having a white coating layer according to claim 19, wherein the white-colored stainless steel coating layer is composed of a nickel-free ferritic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 14-20 vol% of chromium, and 0.4-2.5 vol% of molybdenum; and is formed by a sputtering method, an arc evaporation method, or an ion plating method.

Please amend claim 32 as follows:

32. (Amended) The process for producing a personal ornament having a white coating layer according to claim 19, which further comprises,

after the steps of forming a white-colored stainless steel coating layer on the surface of the ornament base article or of the underlying coating layer,

at least once the steps of:

masking a part of the stainless steel coating layer,

forming a plating layer different in color tone from the stainless steel coating layer on the surface of the stainless steel coating layer and the surface of the mask by a dry plating process, and

removing the mask and the coating layer on the mask,

to thereby provide an outermost plating layer having a white-colored stainless steel coating layer portion and at least one plating layer portion different in color tone from the stainless steel coating layer.

Please add new claims 35-45 as follows:

35. The personal ornament having a white coating layer according to claim 2, wherein a white-colored noble metal coating layer is formed in a thickness ranging from 0.04 to 0.3 μ m by a dry plating process on the surface of the stainless steel coating layer.

36. The personal ornament having a white coating layer according to claim 6, wherein the underlying plating layer comprises a coating layer which is formed by a wet plating process and is composed of at least one metal selected from the group consisting of gold, copper, nickel, chromium, tin, palladium, nickel-phosphorus alloys, nickel alloys excluding nickel-phosphorus alloys, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

37. The personal ornament having a white coating layer according to claim 6, wherein the underlying plating layer is a coating layer formed by a wet plating process and composed of at least one nickel-free metal selected from the group consisting of gold, copper, chromium, tin, palladium, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

38. The personal ornament having a white coating layer according to claim 6, wherein the underlying plating layer is a coating layer formed by a dry plating process and is composed of titanium carbide, zirconium carbide, or tantalum carbide.

39. The personal ornament having a white surface coating layer according to claim 2, wherein the white-colored stainless steel coating layer is composed of an austenitic

stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 8-22 vol% of nickel, and 15-26 vol% of chromium.

40. The personal ornament having a white coating layer according to claim 2, wherein the white-colored stainless steel coating layer is composed of a nickel-free ferritic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 14-20 vol% of chromium, and 0.4-2.5 vol% of molybdenum.

41. The process for producing a personal ornament having a white coating layer according to claim 20, which further comprises, after the formation of the white-colored stainless steel coating layer, the step of forming a white-colored noble metal coating layer in a thickness ranging from 0.04 to 0.3 μ m by a dry plating process on the surface of the stainless steel coating layer.

42. The process for producing a personal ornament having a white coating layer according to claim 24, wherein the underlying plating layer is formed by a wet plating process from at least one metal selected from the group consisting of gold, copper, nickel, chromium, tin, palladium, nickel-phosphorus alloys, nickel alloys excluding nickel-phosphorus alloys, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

43. The process for producing a personal ornament having a white coating layer according to claim 24, wherein the underlying plating layer is formed by a wet plating process from at least one nickel-free metal selected from the group consisting of gold, copper, chromium, tin, palladium, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

44. The process for producing a personal ornament having a white coating layer according to claim 24, wherein the underlying plating layer is formed from titanium carbide, zirconium carbide or tantalum carbide by a dry plating process.

45. The process for producing a personal ornament having a white coating layer according to claim 20, which further comprises,

after the steps of forming a white-colored stainless steel coating layer on the surface of the ornament base article or of the underlying coating layer,

at least once the steps of:

masking a part of the stainless steel coating layer,

forming a plating layer different in color tone from the stainless steel coating layer on the surface of the stainless steel coating layer and the surface of the mask by a dry plating process, and

removing the mask and the coating layer on the mask,

to thereby provide an outermost plating layer having a white-colored stainless steel coating layer portion and at least one plating layer portion different in color tone from the stainless steel coating layer.

REMARKS

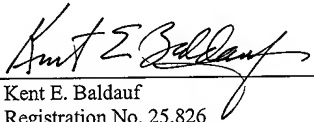
The specification and claims have been amended to place the application in conformance with standard United States patent practice.

Examination and allowance of pending claims 1-45 are respectfully requested.

Respectfully submitted,

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MARKED-UP VERSION

Please amend claim 3 as follows:

3. (Amended) The personal ornament having a white coating layer according to claim 1 [or 2], wherein a white-colored noble metal coating layer is formed in a thickness ranging from 0.04 to 0.3 μ m by a dry plating process on the surface of the stainless steel coating layer.

Please amend claim 7 as follows:

7. (Amended) The personal ornament having a white coating layer according to claim 2 [or 6], wherein the underlying plating layer comprises a coating layer which is formed by a wet plating process and is composed of at least one metal selected from the group consisting of gold, copper, nickel, chromium, tin, palladium, nickel-phosphorus alloys, nickel alloys excluding nickel-phosphorus alloys, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 9 as follows:

9. (Amended) The personal ornament having a white coating layer according to claim 2 [or 6], wherein the underlying plating layer is a coating layer formed by a wet plating process and composed of at least one nickel-free metal selected from the group consisting of gold, copper, chromium, tin, palladium, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 10 as follows:

10. (Amended) The personal ornament having a white coating layer according to claim 2 [or 6], wherein the underlying plating layer is a coating layer formed by a dry plating process and is composed of titanium carbide, zirconium carbide, or tantalum carbide.

Please amend claim 11 as follows:

11. (Amended) The personal ornament having a white coating layer according to [any of claims] claim 2, [and 6 to 10,] wherein the underlying plating layer has an entire thickness ranging from 0.2 to 30 μm .

Please amend claim 12 as follows:

12. (Amended) The personal ornament having a white surface coating layer according to [any of claims] claim 1 [to 3], wherein the white-colored stainless steel coating layer is composed of an austenitic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 8-22 vol% of nickel, and 15-26 vol% of chromium.

Please amend claim 13 as follows:

13. (Amended) The personal ornament having a white coating layer according to [any of claims] claim 1 [to 3], wherein the white-colored stainless steel coating layer is composed of a nickel-free ferritic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 14-20 vol% of chromium, and 0.4-2.5 vol% of molybdenum.

Please amend claim 14 as follows:

14. (Amended) The personal ornament having a white coating layer according to [any of claims] claim 1 [to 3, and 12 and 13], wherein the white-colored stainless steel coating layer is formed by a dry plating process selected from a sputtering method, an arc evaporation method, or an ion-plating method.

Please amend claim 15 as follows:

15. (Amended) The personal ornament having a white coating layer according to [any of claims] claim 1 [to 14], wherein the stainless steel coating layer has a thickness ranging from 0.1 to 2.0 μm .

Please amend claim 16 as follows:

16. (Amended) The personal ornament having a white coating layer according to [any of claims] claim 1 [to 15], wherein, on the surface of the base article or of the underlying plating layer, at least one plating layer different in color tone from the white-colored stainless steel coating layer is formed by a dry plating process in addition to the stainless steel coating layer formed by a dry plating process.

Please amend claim 21 as follows:

21. (Amended) The process for producing a personal ornament having a white coating layer according to claim 19 [or 20], which further comprises, after the formation of the white-colored stainless steel coating layer, the step of forming a white-colored noble metal coating layer in a thickness ranging from 0.04 to 0.3 μ m by a dry plating process on the surface of the stainless steel coating layer.

Please amend claim 25 as follows:

25. (Amended) The process for producing a personal ornament having a white coating layer according to claim 20 [or 24], wherein the underlying plating layer is formed by a wet plating process from at least one metal selected from the group consisting of gold, copper, nickel, chromium, tin, palladium, nickel-phosphorus alloys, nickel alloys excluding nickel-phosphorus alloys, copper-tin-palladium alloys, copper alloys excluding copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 27 as follows:

27. (Amended) The process for producing a personal ornament having a white coating layer according to claim 20 [or 24], wherein the underlying plating layer is formed by a wet plating process from at least one nickel-free metal selected from the group consisting of gold, copper, chromium, tin, palladium, copper-tin-palladium alloys, copper alloys excluding

copper-tin-palladium alloys, tin alloys excluding copper-tin-palladium alloys, and palladium alloys excluding copper-tin-palladium alloys.

Please amend claim 28 as follows:

28. (Amended) The process for producing a personal ornament having a white coating layer according to claim 20 [or 24], wherein the underlying plating layer is formed from titanium carbide, zirconium carbide or tantalum carbide by a dry plating process.

Please amend claim 29 as follows:

29. (Amended) The process for producing a personal ornament having a white coating layer according to [any of claims] claim 20, [and 24 to 28,] wherein the underlying plating layer has an entire thickness of ranging from 0.2 to 30 μ m.

Please amend claim 30 as follows:

30. (Amended) The process for producing a personal ornament having a white coating layer according to [any of claims] claim 19 [to 21], wherein the white-colored stainless steel coating layer is composed of an austenitic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 8-22 vol% of nickel and 15-26 vol% of chromium; and is formed by a sputtering method, an arc evaporation method or an ion plating method.

Please amend claim 31 as follows:

31. (Amended) The process for producing a personal ornament having a white coating layer according to [any of claims] claim 19 [to 21], wherein the white-colored stainless steel coating layer is composed of a nickel-free ferritic stainless steel having a composition of 0.01-0.12 vol% of carbon, 0.1-1.0 vol% of silicon, 1.0-2.5 vol% of manganese, 14-20 vol% of chromium, and 0.4-2.5 vol% of molybdenum; and is formed by a sputtering method, an arc evaporation method, or an ion plating method.

Please amend claim 32 as follows:

32. (Amended) The process for producing a personal ornament having a white coating layer according to [any of claims] claim 19, [20, and 22 to 31,] which further comprises,

after the steps of forming a white-colored stainless steel coating layer on the surface of the ornament base article or of the underlying coating layer,

at least once the steps of:

masking a part of the stainless steel coating layer,

forming a plating layer different in color tone from the stainless steel coating layer on the surface of the stainless steel coating layer and the surface of the mask by a dry plating process, and

removing the mask and the coating layer on the mask,

to thereby provide an outermost plating layer having a white-colored stainless steel coating layer portion and at least one plating layer portion different in color tone from the stainless steel coating layer.